

BOGNOR URBAN DISTRICT.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

AND

CLIMATOLOGICAL SOCIETY

FOR THE YEAR 1918.

COLEMAN & MUNDAY, PRINTERS, BOGNOR.

TO THE CHAIRMAN AND MEMBERS OF THE BOGNOR URBAN DISTRICT COUNCIL.

GENTLEMEN,

I beg to lay before you my 29th Annual Report on the health and sanitary conditions of the Urban District of Bognor for the year ending the 31st December, 1918.

The area of the District is 865 acres and contains about 2149 inhabited houses.

During the last five years the increase in the number of inhabited house has been as follows:-

In 1914	there were	2037	Inhabited Houses.
„ 1915	„ „	2084	„ „
„ 1916	„ „	2092	„ „
„ 1917	„ „	2143	„ „
„ 1918	„ „	2149	„ „

Owing to War conditions no new houses were erected, one plan for a new building was submitted, and five for alterations to existing buildings.

ESTIMATE OF POPULATION.

The war has made it impossible to adhere to the usual methods of estimation of Local and National Populations hitherto in use.

The corrected estimate which I have received from the Registrar General, Somerset House, for the calculation of Death Rate is:— 8299 and for the calculation of Birth Rate is:—9299.

The number of Deaths occurring within the District during the year was 116, viz:—56 Males and 60 Females.

These Deaths were distributed over the 12 months as follows:—

	Residents.			Non-Residents.		
	Males.	Females.	Total.	Males.	Females.	Total.
January	8	4	12	0	1	1
February	2	6	8	0	0	0
March	4	7	11	1	0	1
April	4	2	6	0	1	1
May	2	4	6	2	0	2
June	3	3	6	4	2	6
July	4	4	8	1	0	1
August	2	3	5	1	2	3
September	3	3	6	0	0	0
October	8	8	16	0	1	1
November	5	6	11	0	0	0
December	2	3	5	0	0	0
Totals.	47	53	100	9	7	16

I have received from the County Medical Officer of Health the names of 21 Bognor Residents who died in the Royal West Sussex Hospital, Workhouse Infirmary and other places outside the Urban District of Bognor.

These deaths, in accordance with instructions of the Local Government Board, are not included in the figures used in arriving at the death rate of the District, but they are included in Table III which deals with deaths at various ages of residents whether occurring in or beyond the District.

The Total number of the Deaths and the Death Rates for the previous 10 years are as follows :—

Year.	Total.	Rate.
1909	103	13'0
1910	78	9'6
1911	96	11'7
1912	106	12'6
1913	102	11'8
1914	108	12'3
1915	107	13'8
1916	87	11'4
1917	102	12'6
1918	116	13'9

The estimated Death Rate of the Deaths occurring within the District as calculated on the estimate of population, which I have received from the Registrar General, Somerset House, is :—
13'9 per 1000.

The various ages at which death occurred during the year under Report were as follows :—

Under 1 year	7
1 year and under 5 years	5
5 years „ „ 15 „	5
15 „ „ „ 25 „	10
25 „ „ „ 45 „	17
45 „ „ „ 65 „	33
65 „ „ „ 80 „	28
80 „ „ and over	11
	<hr/>
	116
	<hr/>

The ages of death of those of over 80 years were as follows :—

1	at	80
1	„	81
1	„	82
1	„	83
2	„	85
1	„	87
1	„	90
1	„	91
1	„	92
1	„	96

The chief causes of death at various ages will be found in Table III. Tables 1, 2, 3 and 4 hitherto required by the Local Government Board are not for this year asked for, but for the sake of continuity I have made the entries in these Tables as heretofore.

During the year, there were, in the District, 7 deaths of infants under 1 year of age, which gives an Infantile Mortality Rate of 0'8 per 1000 general population, and 56'9 per 1000 Births registered.

These were distributed over the 12 months as follows :—

	Males.	Females.	Total.
January	1	—	1
February	1	2	3
March	—	1	1
April	—	—	—
May	—	—	—
June	—	—	—
July	—	—	—
August	1	—	1
September	—	1	1
October	—	—	—
November	—	—	—
December	—	—	—
	3	4	7

Under the Infectious Diseases Notification Act, 1889, adopted by your Council in 1891, I have received 62 Notifications, viz :—

Typhoid Fever	1
Erysipelas	2
Scarlet Fever	5
Cerebro-Spinal Fever	1
Diphtheria	22
Measles	16
German Measles	15
	62

Totals notified during the last 10 years were :—

1908	...	33	1913	...	17
1909	...	17	1914	...	11
1910	...	46	1915	...	44
1911	...	43	1916	...	124
1912	...	22	1917	...	221

The above Notifications for 1918 were distributed over the 12 months as follows :—

	Typhoid Fever.	Erysipelas.	Scarlet Fever.	Cerebro Spinal Fever.	Diphtheria.	Measles.	German Measles.
January	—	1	1	—	1	5	—
February	1	—	—	—	—	2	—
March	—	—	—	—	4	1	—
April	—	—	—	—	1	6	1
May	—	—	1	—	10	1	—
June	—	1	—	1	3	1	13
July	—	—	—	—	—	—	—
August	—	—	1	—	1	—	—
September	—	—	—	—	—	—	1
October	—	—	2	—	—	—	—
November	—	—	—	—	2	—	—
December	—	—	—	—	—	—	—
Totals	1	2	5	1	22	16	15
62							

Fourteen cases of Diphtheria and 1 of Scarlet Fever were sent to the Isolation Hospital of which 1 of Diphtheria died.

The corrected Death Rate from Zymotic diseases is :—0·3 per 1000 general population.

The accommodation at the Isolation Hospital provides 12 beds for Scarlet Fever patients, namely, 6 male and 6 female, and 12 beds for Diphtheria patients, namely, 6 male and 6 female. This accommodation is ample under present circumstances.

Disinfection of premises after occupation by patients suffering from Notifiable Diseases was carried out to the satisfaction of the Sanitary Authority, in all cases.

Under the Public Health (Tuberculosis) Registration Act, 1912, which requires notification of all cases of Tuberculosis and came into force on the 1st February, 1913, I have received 38 certificates which are classified thus :—

	Males.	Females.	
Pulmonary	13	12	
Non-Pulmonary	7	6	
	<hr/>	<hr/>	
	20	18	Total—38
	<hr/>	<hr/>	

A Dispensary is provided at Chichester for treatment of these cases when necessary. There is no accommodation for them in the Urban District of Bognor.

EPIDEMIC INFLUENZA.

During the first quarter of the year under report there were a good many cases of Influenza in the District which were mostly of a mild type.

The following table gives the dates of death, sex, age and occupation of the fatal cases :—

Date.	Sex.	Age.	Occupation.
March 8th	Male	91	Retired Coachman.
October 13th	Female	19	Housemaid.
„ 18th	Male	7	Nil.
„ 27th	Female	22	„
„ 30th	Male	24	Postman.
November 4th	„	5	—
„ 4th	„	17	Butcher.
„ 5th	Female	38	Domestic Duties.
„ 5th	„	21	„ „
„ 5th	„	13	Nil.
„ 8th	„	27	Domestic Duties.
December 6th	Male	32	Bootmaker.
„ 12th	„	29	Fisherman.

The Disease did not assume an epidemic form until the Summer and even then, probably due to the warm weather and consequent more efficient ventilation and fresh air, there were no fatal cases. In the early part of October the disease was extremely prevalent and the cases began to assume a much more serious form ; and, as is shown by the above table there were 12 fatal cases in the last three months of the year, which, with the death occurring in March gives a death rate from this disease of 0·15 per 1,000 general population.

There is no doubt that during the Summer many of the cases were caused by infected visitors coming down for week-ends.

It so frequently happened that people arriving in the town from London on the Friday or Saturday developed the disease directly they got here, and about the Monday or Tuesday following other occupants of the house in which they stayed sickened.

This fact is interesting in showing that the incubation period of the disease is short, namely about 2 or 3 days.

The Disease attacked all ages and occupations and was not confined more to one sex than the other, nor were the fatal cases limited to any special age or sex. It is interesting to note however that, although the disease was prevalent amongst infants and quite young children, and in many cases was complicated with broncho-pneumonia, there were no deaths below the age of 5 years.

During the prevalence of the epidemic, posters were freely distributed about the District giving concise and practical directions as to the precautions to be taken to prevent the spread of the disease, and advice to the persons affected.

The Public Elementary Schools were closed on account of the epidemic on the dates recorded in a subsequent section of this report.

The District Nurses rendered invaluable assistance in attending the poorer patients.

BIRTHS.

The number of births registered in the District was 123 ; namely 54 males and 69 females.

This gives the birth-rate, calculated on the estimate of population as received from the Registrar General, of 13·2 per 1000 estimated population.

The births were distributed over the 12 months as follows :—

	Males.	Females.	Total.
January	5	7	12
February	4	10	14
March	7	2	9
April	6	9	15
May	3	11	14
June	6	1	7
July	5	4	9
August	7	1	8
September	2	12	14
October	2	3	5
November	4	7	11
December	3	2	5
	<hr/> 54	<hr/> 69	<hr/> 123

The figures for the previous 5 years are as follows :—

	Males.	Females.	Total.	Rate.
1914	78	85	163	18·5
1915	79	51	130	15·0
1916	56	62	118	14·6
1917	63	50	113	12·5
1918	54	69	123	13·2

Ten births of illegitimate children which occurred in the District are included in the number registered.

THE HEALTH VISITOR.

The Nurse who carries out this duty works under the direction of the County Council, and the Bognor District Nursing Association.

This Association employs also the Services of a Maternity Nurse.

Both Nurses do much useful work in the Town; and whenever they have occasion to call attention to nuisances or sanitary defects in houses visited by them, these are immediately attended to by the Sanitary Inspector or myself.

MATERNITY AND CHILD WELFARE.

The Bognor Centre was established by, and is under the control of the West Sussex County Council. The County Medical Officer of Health is responsible for its Administration assisted by a Committee of Local Ladies.

The Centre was opened on the 30th May, 1918 at the Parochial Hall, London Road.

The Centre is open every Thursday for the General Supervision of the infants and on every alternate Thursday a Medical Officer attends to examine them and give such advice to the Mothers as may be necessary. Miss Smith the Superintendent of the West Sussex County Nursing Association, also attends on the other alternate Thursdays and gives lectures on Mother Craft and Home Nursing.

The Children are supervised, at the Centre, from birth until School age, when they are handed over to the Supervision of the School Medical Officer at the School Clinic.

At the Centre Expectant and Nursing Mothers are also advised as to the care and maintenance of their own health.

There is also a department where Mothers can obtain patterns, material and advice as to the making of baby clothes, and such nourishments as virol, malt and cod liver oil and various infant foods, when prescribed by the Medical Officer.

The Centre comprises three rooms :—

The first where the Mothers wait and where tea is served to them at a moderate charge.

The second where the Children are undressed and weighed and the records kept.

The third room is the Consulting room where the Mothers and Children are seen by the Medical Officer, who is assisted by the District Maternity Nurse.

During the first six months that the Centre was open the number of Infants and Children examined was 87, expectant Mothers 3, and Nursing Mothers 4.

Provision also is made for Mothers to be sent to the Brighton Lying-in Hospital when necessary.

The Public Elementary Schools have been elosed by order of the County Medical Officer of Health on account of illness for the following periods:—

Bognor Council (Infants) from 28th June to end of term for Mumps and Chicken-pox.

"	" (Girls)	"	23rd July	"	"	"	"	"	Influenza.
"	R. Catholic	"	16th Oct. to 3rd Nov.	for Influenza.					
"	Nyewood	"	16th	"	"	3rd	"	"	"
"	Council (Infants)	"	22nd	"	"	29th Oct.	"	"	"
"	" (Boys)	"	22nd	"	"	3rd Nov.	"	"	"
"	S. Bersted	"	23rd	"	"	3rd	"	"	"

All the Public Elementary Schools are supplied with Town Water and are in a sanitary condition.

During the vacations they are thoroughly cleaned and disinfected.

A special school Medical Officer is appointed by the County Council for the inspection of the children in these schools.

BOGNOR AMBULANCE VAN.

During the year a 25 h.p. Deasy Motor Car was purchased by Public Subscription and presented to the Town. The Car has accommodation for 2 stretcher cases, 2 attendants and driver. The Car has filled a much felt want in the district as patients can now be comfortably and expeditiously conveyed from their homes to the Nursing Home, Royal West Sussex Hospital and elsewhere.

The Ambulance is driven by Volunteer Members of the Bognor Detachment of The British Red Cross Society.

The Water supply of the Town is ample in quantity and still maintains its high standard of purity as shewn by the accompanying report. It is drawn from deep wells at the foot of the Downs about 7 miles distant, where there is a pumping station which fills a covered service reservoir on the side of the hill, from which the water falls by gravitation to the Town.

Report on the sample Water :—

OTTO HEHNER,

Consulting and Analytical Chemist.

Public Analyst.

THE LABORATORY,

11, BILLITER SQUARE,

LONDON, E.C. 3.

25th October, 1918.

REPORT ON A SAMPLE OF WATER RECEIVED ON OCTOBER 18TH FROM THE BOGNOR WATER
COMPANY, LONDON ROAD, BOGNOR.

The composition of the sample expressed in parts per 100,000 was found to be as under:—

Chlorine	2'65
Sulphuric Acid (SO_3)	0'96
Nitric Acid (N_2O_5)	2'14
Phosphoric Acid	None
Free Ammonia	0'0009
Albuminoid Ammonia	0'0016
Oxygen absorbed from permanganate at 80°F in 15 mins.	0'002
Ditto ditto 4 hrs.	0'013
Total solids dried at 212°F.	34'88
Loss on Ignition	1'48
Appearance of solids on heating	No visible change.
Hardness—Permanent	6'3
„ Temporary	18'3
„ Total	24'6

The sample was quite clear and colourless.

BACTERIOSCOPIC EXAMINATION. :—

Total number of organisms per cubic centimetre	101
Growing at Blood heat on agar	7
B. Coli—not detectable in 36 cubic centimetres.	

The Supply is of excellent quality and unexceptionable purity.

(Signed) OTTO HEHNER.

HOUSING AND TOWN PLANNING.

The Council have secured land in Sheepwash Lane and in Linden Avenue for the erection of about 130 houses but no definite details are available yet as the scheme is only now being developed. It must be remembered that Bognor is not in default, the Council having built 43 houses for the working classes before the war and which are now a valuable asset.

Seven houses were inspected under and for the purpose of section 17. In no case was it found necessary to make a closing order. Defects were found in 4 cases which were remedied. The general character of the defects found to exist were :—Damp walls and ceilings caused by tiles and slates being misplaced ; and defective gutters and down pipes.

During the year 1918—58 Nuisances were investigated, in 10 cases notices were served, the other cases were abated without notices being served.

No cases of overcrowding were reported.

The scavenging and watering of the streets under the control of the Council have been systematically carried out and even with the shortage of labour there has been little to complain about.

Movable ash-bins have been provided in 42 cases.

The repairs of the roads and footpaths have been fairly well maintained, the strain on the roads has been enormous owing to the heavy lorry traffic, from the Munition Works in the District. There is no doubt that the tarred have stood the traffic better than the untarred roads. The application of tar to the surface, besides being more cleanly adds considerably to the life of the roads. Repairs to the gravelled roads have been in abeyance as the material was unobtainable during the war, they will now need remetalling.

SEWERAGE.

The system is working well, the sewers are periodically flushed especially during the Summer months. There have been no complaints of flooding at all during the year.

The Destructor which has been working since October, 1911, is very satisfactory. During the year 1918 there have been 2242 loads of refuse burnt ; and 207 loads of clinkers have been used by the Council on the roads and footpaths.

The sale of ashes has realised £32 8s. ; Clinkers £8 6s. 9d. ; and bottles £16 ; making a Total of £56 14s. 9d.

UNDER THE SALE OF FOOD AND DRUGS ACT.

Twenty-two samples of Milk were analysed during the year 1918, by the Public Analyst, of which 11 were genuine and 11 did not comply with the Board of Agriculture Standard 3% fat, 8.5% non fatty solids.

The carcasses of 3 cows, 1 steer, and 1 sheep were condemned as being unfit for human consumption, the animals in question being affected with Tuberculosis. 29½-lbs. of Tripe were also condemned.

The sanitary condition of the premises where foods are prepared, stored, or exposed for sale is satisfactory.

There are no underground bakehouses in the District.

The Factories on the Register at the end of the year, under the supervision of the Council are 13 in number and are classified as follows :—

Steam Laundry	1	Machinist	1
Stone Mason	1	Beer Bottling	1
Forage Contractors	2	Motor Works	4
Printers	2	Shoemakers	1
Total—13.			

In every one of these a copy of the Factory Act is hung in a conspicuous position.

The Workshops on the Register at the end of the year were 70 and are classified as follows :—

Bakehouses	8	Undertakers & Cabinet Makers	2
Tailors	6	Coach Builders	2
Carpenters	11	Brick Makers	1
Shoe Makers	7	Harness Makers	2
Cycle Manufacturers	3	Dress Makers	13
Plumbers	4	Laundries	4
Horse Farriers	3	Watch Makers	4
Total—70.			

Three complaints were dealt with during the year 1918, and these were put right without any notices being served.

Systematic inspection of the District have been made from time to time, or as occasion required, by myself, or the Sanitary Inspector. Regular monthly reports of the work have been laid before the Sanitary Committee. Besides this general supervision, I have paid 33 special visits in cases where required.

COW SHEDS AND DAIRIES.

The Policy adopted by the Council in 1912 for the proper inspection of the Cowsheds and Dairies by a Veterinary Surgeon, has been carried out and his report on the matter is as follows :—

“I found at my Inspections during the year 1918, the health of the dairy cows from which milk was being supplied to the town of Bognor, quite satisfactory ; also that the several dairies employed in the collection and distribution of the milk were conducted properly to ensure a clean and wholesome supply.”

(Signed) J. W. PRITCHARD, M.R.C.V.S.,
Veterinary Inspector.

THE MUNICIPAL PIGGERIES.

The Piggeries owned by the Council have fully justified the amount of money and labour expended on them, and great credit is due to the Surveyor who brought the matter forward. The pigs are fed principally on the waste food and garbage collected in the Town.

I would draw your attention to the fact that the work of the Public Health Department steadily increases, as year by year Parliament throws greater and more extended responsibilities upon Local Authorities.

I enclose Tables I, II, III, and IV, as hitherto required by the Local Government Board, and I take this opportunity of thanking the Members of the Sanitary Committee and the Inspector of Nuisances for the courtesy and help they have extended to me during the year.

I beg to remain,

Your obedient Servant,

W. CONWAY-COOKE,

Associate of King's College, London.

Fellow of the Royal Institute of Public Health.

Medical Officer of Health.

Bognor,

9th May, 1919.

TABLE I.
Vital Statistics of the Whole District during 1918 and previous Four Years.
BOGNOR URBAN DISTRICT.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS.		NETT DEATHS BELONGING TO THE DISTRICT.			
		Un-corrected Number.	Nett.		Number.	Rate.	of Non-residents registered in the District.	of Residents not registered in the District.	Under 1 Year.		All ages.	
			Number.	Rate.					Number	Rate per 1,000 Nett Births	Number	Rate.
1914.	8779	163	165	18·7	108	12·3	6	20	13	78·7	122	13·8
1915.	7673	130	132	15·0	106	13·8	9	7	9	68·1	104	13·5
1916.	{ For Birth Rate. }	118	121	14·6	87	11·4	11	16	3	24·7	92	12·0
	{ For Death Rate. }											
1917.	{ For Birth Rate. }	113	115	12·5	102	12·6	15	18	5	43·4	105	13·0
	{ For Death Rate. }											
1918.	{ For Birth Rate. }	123	123	13·2	116	13·9	16	21	8	65·0	121	14·5
	{ For Death Rate. }											

TABLE II.
Cases of Infectious Diseases notified during 1918.
BOGNOR URBAN DISTRICT.

NOTIFIABLE DISEASE.	AT ALL AGES.		TOTAL CASES REMOVED TO ISOLATION HOSPITAL.
Typhoid Fever	...	1	...
Erysipelas	...	2	...
Scarlet Fever	...	5	1
Cerebro-spinal Meningitis	...	1	...
Diphtheria	...	22	14
Measles	...	16	...
German Measles	...	15	...
Pulmonary Tuberculosis	...	25	...
Other forms of „	...	13	...
Totals	...	100	15

Bognor Isolation Hospital is situated in Sheepwash Lane, within the District, and is provided by the Bognor Urban District Council.

BOGNOR URBAN DISTRICT.

	Nett Deaths at the subjoined ages of "Residents " whether occurring within or without the District.									
	All Ages	Under 1 year	1 year and under 2	2—5	5—15	15—25	25—45	45—65	65 and upwards	
Measles ...	1	...	...	...	...	...	...	1	...
Whooping Cough ...	1	...	1	...	...	...	...	...	...
Diphtheria and Croup ...	2	...	...	1	1	...	...	...	...
Influenza ...	13	...	...	...	3	5	4	...	1
Phthisis (Pul. Tuberculosis) ...	14	...	...	...	...	2	7	5	...
Tuberculous Meningitis ...	1	...	...	...	1	...	...	...	...
Other Tuberculous Diseases ...	2	...	1	1	...	...	...	...	...
Cancer, Malignant Disease ...	14	...	...	...	...	...	...	8	6
Organic Heart Disease ...	19	...	...	...	...	...	2	3	14
Bronchitis ...	9	1	...	...	...	...	1	2	5
Pneumonia (all forms) ...	2	...	...	...	...	...	1	1	...
Diarrhœa and Enteritis ...	4	4	...	...	...	...	..	...	...
Nephritis and Bright's Disease	2	1	...	...	...	1	..	...	...
Violent Deaths, excluding Suicide	1	...	...	...	...	...	...	...	1
Suicide ...	1	...	...	...	...	...	1	...	...
Other Defined Diseases ...	35	2	...	...	...	...	3	10	20
Totals ...	121	8	2	2	5	8	19	30	47	

TABLE IV.
BOGNOR URBAN DISTRICT.
INFANT MORTALITY.

1918. Nett Deaths from stated causes of Infants under 1 Year of Age.

	Under 1 Week.	1-2 Weeks.	Total under 1 Month.	1-3 Months.	3-6 Months.	6-9 Months.	9-12 Months.	Total Deaths under One Year.
Convulsions ... ..	...	...	...	...	I	...	...	I
Bronchitis ... ..	...	...	...	...	...	...	I	I
Enteritis ... ..	...	...	...	3	...	I	...	4
Other causes	I	I	2	...	...	...	...	2
Totals	I	I	2	3	I	I	I	8

NETT BIRTHS registered during 1918	{	legitimate ...	113	NETT DEATHS of Infants under 1 year of age registered during 1918	{	legitimate ...	6
	{	illegitimate	10		{	illegitimate ...	2
		<hr/>	123			<hr/>	8

REPORT ON THE CLIMATOLOGY OF BOGNOR

during the Year 1918.

The Meteorological Instruments have been maintained in good order, and the daily records have been forwarded to the Meteorological Office, South Kensington, at the end of every week and month as usual.

We are again indebted to Messrs. H. L. F. Guernonprez, F. J. Neale and H. Neale for the records of the Rainfall at Albert Road, Bognor; Outerwyke, Felpham; and Lidsey, as contained in Table IV annexed hereto.

JANUARY.—For nearly the first half of the month the weather was decidedly wintry, with frost and some snow, but the air pressure was fairly high, and the precipitation, with the exception of that on the 15th, was not great. On the night of the 15th a strong gale occurred accompanied by rain, hail, and a very rough sea which did more damage to the groynes and the Parade paving and railings than has been the case for many years.

During the second half of the month the temperature was higher, and the rainfall more frequent but less in quantity than in the first half. The 4-ft. subsoil temperature was very steady, being 45·8 degrees on the 1st, declining to 43·7 degrees in the middle of the month and rising to 44·9 degrees at the end. Temperature in the sunshine as indicated by the Black-bulb thermometer in vacuo ranged from 49 to 102 degrees. Bright sunshine was rather above the average. Fog was noted on five days. A lunar corona was seen on the 20th and a lunar halo on the 24th, but scarcely any rain followed.

FEBRUARY.—A very mild and fairly dry month with the air pressure above the average, the mercury falling only slightly below 30 inches, adjusted readings, on only four days, and rising to 30·693 inches or 1039·4 millibars at 9 a.m. on the 26th. Mr. Guernonprez, in Albert Road, registered a reading of 30·723 inches or 1040·4 millibars at hour 21 (9 p.m.) on that date, an unusually high pressure.

Mean temperature was above the normal: the minimum in the screen was below 30 degrees on only three nights; the 17th, 18th and 19th. Subsoil temperature continued very steady, beginning at 44·8 degrees, rising to 45·7 degrees about the middle of the month and falling to 45·2 degrees at the end. The temperature in sunshine ranged from 56 degrees on the 4th to 114 degrees on the 28th.

Rain fell during the first eight days and amounted to 12·2 millimetres, nearly half-an-inch, and there were only four rain days during the rest of the month, producing 10·8 m.m., or about 425 inch. A few flakes of snow fell on the 28th.

Bright sunshine was recorded on twenty days but the total was rather below the average.

Fog was noted on the 19th only.

MARCH.—A fine and dry month, the sunshine above the average, and the rainfall below. The air pressure was also for the most part anticyclonic in character, the mean being a little above the average, the adjusted barometric readings being under 30 inches on nine mornings only. Wind was very light for March but chiefly from the E. and N.E.

Temperature was somewhat variable during the day but the nights were cold: the mean was about the average. The temperature in sunshine ranged from 43 degrees on the 3rd to 119 degrees on the 31st. The 4-ft. subsoil temperature was very steady, hardly varying from 45 degrees all the month.

Fog was noted on four days, and a lunar halo on one, the 18th, and a little rain fell during the night.

APRIL.—Air pressure was a trifle below the average, the adjusted readings being above 30 inches on eleven mornings only. Temperature was variable but rather low, particularly at night. From the 14th to the 21st was a cold period, ranging from a maximum of 49·7 degrees to a minimum of 30·2 degrees, while the temperature in the sunshine ranged between 63 and 111 degrees: during the same period the subsoil remained at about 47 degrees and it only varied between this and 45·8 degrees at the beginning and 46·9 degrees at the end of the month.

For rainfall and bright sunshine refer to Tables III and V.

Hail fell on two occasions and some snow also twice, the 20th and 21st. A thunder storm with a slight fall of rain occurred on the 25th.

A little fog was noted on the 8th. A rainbow was formed at sunset on the 29th.

MAY.—During the first fortnight the weather was unsettled and rather stormy. The barometer readings after the 3rd were below 30 inches, and the mornings and nights were cool, this period apparently taking the character of the cold snap which generally occurs about the third week in May. A rather heavy thunder storm took place at about the hour 20·45 on the 3rd and produced 11·6 millimetres or 0·46 inch of rain, nearly half the quantity which fell during the first fourteen days, the total for that period being 31·7 m.m. or 1·25 inch: the only other fall during the remainder of the month was 2 m.m. or ·08 inch, with a distant thunder storm, on the evening of the 22nd.

After the 14th both air pressure and temperature increased and the air became very dry. The readings of the Black-bulb thermometer in sunshine ranged from 88 to 147 degrees.

The 4-ft. subsoil temperature rose regularly from 47·1 degrees on the 1st to 51·8 degrees on the 31st.

Bright sunshine was abundant during the month, only 2 days being without.

JUNE.—Air pressure was very steady, the mercury keeping above 30 inches, except on six days, the 10th and 15th to 19th when a slight depression passed to eastward.

Temperature was low for June, the nights being notably cool: that in sunshine ranged from 118 to 141 degrees, and that of the subsoil rose from 51·8 to 53·4 degrees, in the thirty days.

The relative humidity of the air was low and the rainfall deficient. On the 10th distant thunder was heard in the evening, preceded at about hour 16·35 by a passing shower of rain and hail; a little rain had fallen at 15·30, but the total of the day was only 1 m.m. or ·04 inch. Thunder was again heard on the 15th with a passing shower of half a millimetre or ·02 of an inch. A solar halo was seen on the 21st, about mid-day, and a slight shower of rain fell in the evening.

Bright sunshine was plentiful and above the average, no day being without, the smallest amount recorded was half-an-hour on the 7th, a dull, cool day with an inappreciable sprinkle of rain at 11.20.

JULY.—The barometer indicated a pressure well over 30 inches for the first week, with fine and dry weather, but only once afterwards, until the 28th, did it reach 30-ins.

Temperature was about normal but rather on the cool side, that in sunshine varied from 127 to 142 degrees, and the subsoil from 53·5 degrees on the 1st to 56·1 degrees on the 31st.

The relative humidity of the air at 9 a.m. was generally below the normal, although the precipitation after the 7th was excessive with S.W. wind prevailing. The last four days of the month were dry and sunny. Thunder storms with rain occurred on the 15th, 17th, 20th and 27th and thunder was heard on the 26th, and a double rainbow formed. A solar halo was noted about noon on the 4th, but no rain followed for three days after.

Bright sunshine was plentiful throughout the month, only one day being without.

AUGUST.—Air pressure was under 30-in. during the first six days, but increased after that date, the first fortnight having both the greatest and least pressures of the month. Wind was very variable in direction but never very strong.

Temperature was not excessive and the mean was equal to the average for August of the last twenty years. In the sunshine the heat was greatest on the 7th and 9th, 138 degrees F. being registered by the Black-bulb thermometer, and 95 degrees on the 27th. The 4-ft. subsoil temperature ranged from 56·2 to 57·8 degrees; after the 29th it began to decrease.

Rainfall. The first week was rather wet and stormy; thunder was heard in the afternoon of the 3rd, and a thunder storm with heavy rain occurred at 11.15 on the morning of the 6th, after this the weather became more settled and summerly.

Solar halos were seen in the afternoon of the 11th, and in the morning of the 25th, rain following in the afternoon of that day.

Fog came up from the sea on the 21st, spread inland and remained the greater part of the day.

SEPTEMBER.—An unusual September, being notably wet and stormy. Air pressure was below the average, the adjusted readings of the barometer being above 30 inches on only five days.

Temperature was about normal, the mean of the month being less than a degree below the average; this compares very favourably with that experienced at many other stations in the Kingdom. The coldest night was that of the 29th which is also the date of the heaviest fall of rain. In sunshine the temperature varied from 91 to 133 degrees; the subsoil from 57·6 to 56·6 degrees.

Rainfall was excessive, the total of 4·94 inches in September has never been even reached since our records began, the nearest approach to it was in 1903 when a total of 3·49 inches was registered, 1·45 inch less than that of 1918.

Five thunder storms occurred during the month, on the 9th, 10th, 11th, 22nd and 23rd, all accompanied by rain, and that on the 10th was preceded by hail at mid-day as well. Lightning was also seen on the night of the 30th.

Sunshine, in spite of the copious rain, was fairly plentiful, a few brilliant days helping to raise the total slightly over the average.

A sea fog came up on the 6th. Rainbows were seen in the evenings of the 8th and 22nd.

OCTOBER.—The air pressure was rather above the normal, the chief depressions occurred about the middle of the month, but the barometric variation was not very great at any time.

Temperature at night was rather low at times but not inordinately so. In the sunshine the Black-bulb thermometer gave indications ranging from 67 to 127 degrees F. The 4-ft. subsoil temperature declined rapidly from 56·5 degrees on the 1st to 53·7 degrees on the 28th, after which date a slight rise took place for a few days.

A solar halo appeared in the morning of the 6th, and a lunar halo on the 19th, a little rain following after some hours in each case.

NOVEMBER.—Air pressure was under 30 inches during the first few days and the weather rather wet and windy, but the rain fell mostly during the nights. A dry spell took place from the 12th to the 23rd inclusive, twelve days, with high barometer and a fair amount of sunshine, but temperature was somewhat low, especially during the nights which were frosty. Temperature in sunshine ranged from 56 to 105 degrees, and that of the subsoil from 53·9 degrees on the 1st to 50·6 degrees on the 30th.

Rainfall was deficient, and more than half the total quantity was collected during the first four days of the month.

Sunshine was not very plentiful but there were several very bright days, notably the 9th, 13th, 14th and 16th. Fog was formed in the afternoon of the 19th and seemingly continued into the next morning.

DECEMBER.—On thirteen days the barometer at 9 a.m. registered a pressure of over 30 inches of mercury, and on eighteen days it was below.

Temperature was rather high for the season; Christmas Day proved to be the coldest of the month. In the sunshine the 6th had 55 degrees and the 7th 101 degrees, and these temperatures were the extremes, the next highest was 98 degrees on the 11th. The 4-ft. subsoil temperature from 50·5 degrees on the 1st rose to 51 degrees on the 11th, and declined slightly till the 18th and 19th, when it again reached 51 degrees, and then decreased to 49·1 degrees on the 29th.

Rainfall, although below the average, was rather persistent, only four days being without some precipitations, and on the 31st some fine sleet fell for about three minutes.

Bright sunshine was deficient, naturally, under the above conditions. Fog was formed in the evening of the 1st. A lunar corona appeared on the 11th, and a rainbow was noted at 11 a.m. and a lunar halo on the 17th. On the whole the month may be fitly described as having been warm, dull and damp.

The annexed five Tables contain interesting statistics not embodied in the foregoing text.

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TABLE I.

Air Pressure at 9 a.m.							Wind.									
1918.	Barometer reduced to 320 and Mean-Sea level + gravity at Lat. 45o.	Difference from Average of 20 years 1898-1917.	Highest adjusted reading.	Date.	Lowest adjusted reading.	Date.	Number of times observed to be blowing from								CALM.	
							N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.		
January.	Ins. 30·037	In. —0·032	Ins. 30·563	4th	Ins. 29·401	7th	2	1	4	4	4	5	8	3	0	
February.	30·240	+ ·311	30·693	26th	29·591	28th	0	2	6	1	2	7	10	0	0	
March.	30·065	+ ·201	30·550	22nd	29·262	31st	1	8	9	2	5	2	1	3	0	
April.	29·924	— ·011	30·222	27th	29·455	1st	2	16	3	1	1	1	5	1	0	
May.	30·062	+ ·094	30·467	29th & 30th	29·574	13th	2	5	9	6	0	4	1	4	0	
June.	30·128	+ ·123	30·495	1st	29·681	19th	2	3	2	2	0	10	6	5	0	
July.	29·975	— ·016	30·467	4th	29·519	23rd	1	2	3	2	1	16	5	1	0	
August.	30·063	+ ·083	30·353	10th	29·637	6th	0	6	0	3	1	8	8	5	0	
September.	29·809	— ·252	30·138	20th	29·359	23rd	0	1	2	0	1	10	9	7	0	
October.	30·054	+ ·127	30·386	29th	29·783	16th & 17th	1	10	0	0	2	9	3	6	0	
November.	30·111	+ ·157	30·566	13th	29·457	2nd	2	7	2	4	2	4	3	6	0	
December.	29·929	+ ·027	30·333	14th	29·378	23rd	2	1	1	0	1	12	8	6	0	
Average for the year.	30·033	+ 0·064				Totals	15	62	41	25	20	88	67	47	0	

TABLE II.

Average Temperature in Shade.													Sub-soil.	On Grass.		In Sunshine. By Black-bulb in vacuo.		Frosts.	
1918.	Mean Maximum.	Mean Minimum.	Average Mean.	Difference from average of 20 years 1898-1917.	Mean Range.	Date.	Maximum.		Minimum.		Average Temper- ature 4-ft. below Grass at 9 a.m.	Mean Minimum.		Lowest.	Mean.	Highest.	No. of times 30.4° and under in Screen.	Ditto on Grass.	
							Highest.	Lowest.	Lowest.	Highest.									
January.	43.6	35.1	39.4	-1.8	8.5	20.4 on 9th	50.2 on 20th	33.5 on 8th	20.9 on 9th	44.2 on 19th	44.6	32.8	19.5 on 9th	75.3	102° on 25th	8	10		
February.	46.8	39.8	43.3	+2.5	7.0	16.8, 19th	51.8, 23rd	40.2, 16th	26.4, 18th	46.1, 11th	45.2	37.8	26.8, 18th	90.9	114, 28th	3	5		
March.	48.7	37.3	43.0	+0.4	11.4	21.3, 23rd	59.4, 20th	37.8, 3rd	30.0, 2nd	44.6, 31st	45.1	34.2	27.8, 16th	104.2	119, 31st	1	4		
April.	51.3	39.5	45.4	-1.5	11.8	21.2, 24th	64.0, 25th	43.7, 20th	30.2, 19th	46.0, 4th	46.5	38.6	29.5, 19th	104.6	125, 27th	1	1		
May.	61.7	49.1	55.4	+2.6	11.6	23.7, 18th	75.9, 18th	49.8, 1st	42.2, 1st	61.7, 22nd	49.3	44.7	37.1, 14th	123.7	147, 24th	0	0		
June.	63.7	48.4	56.1	-1.3	15.3	23.0, 11th	71.1, 11th	57.5, 18th	40.1, 17th	54.8, 21st	52.8	42.7	32.5, 25th	129.2	141, 23rd	0	0		
July.	66.4	54.9	60.7	-0.5	11.5	20.1, 3rd	73.6, 2nd	60.2, 10th	48.2, 28th	61.4, 16th	54.9	50.4	40.0, 4th	132.3	142, 23rd	0	0		
August.	67.6	55.3	61.5	=	12.3	17.5, 7th	72.8, 22nd	63.1, 27th	44.2, 29th	61.1, 18th	57.2	51.5	41.7, 30th	135.5	138, 7th & 9th	0	0		
September.	62.1	52.4	57.3	-0.6	9.7	18.0, 29th	68.5, 6th	53.6, 36th	40.0, 29th	61.2, 18th	57.1	50.2	35.9, 29th	123.5	133, 2nd	0	0		
October.	55.2	46.1	51.2	-1.4	10.1	20.8, 1st	60.8, 6th	52.0, 17th	34.4, 1st	56.1, 11th	54.8	44.2	31.2, 14th	103.1	127, 3rd	0	0		
November.	50.5	40.7	45.6	-0.3	9.8	21.4, 9th	58.4, 1st	41.5, 17th	31.2, 9th	54.8, 2nd	52.4	37.1	24.4, 9th	85.2	105, 7th & 9th	0	7		
December.	50.4	42.8	46.6	+3.8	7.6	20.2, 27th	54.7, 13th	40.1, 25th	29.9, 25th	52.5, 14th	50.5	39.9	23.9, 21st	75.6	101, 7th	2	5		
Average for the year.	55.8	45.1	50.5	+0.2	10.6						50.9	42.0		106.1		Total 15	Total 32		

TABLE III.

1918.	Humidity.				Rainfall. Waterloo Square.					
	Average Temperature at 9 a.m. of		Vapour pressure.	Relative Humidity. Saturation = 100.	Monthly Totals.	Difference from average of 20 years 1898-1917.	Greatest fall in 24 hours.		Number of rain days of not less than .01 inch.	Number of days of .04 in. or 1 mm. or more.
	Dry Bulb.	Wet Bulb.								
	° F.	° F.	Inch.	%	Ins.	Ins.	Ins.	Date.		
January	39.0	37.9	0.218	89	3.21	+ 0.97	1.32	on 15th	17	10
February	43.4	42.0	.254	88	.91	— 1.35	.19	,, 6th	12	7
March	43.6	41.8	.246	86	1.07	— .96	.44	,, 30th	10	4
April	46.1	43.6	.259	83	1.53	— .02	.35	,, 20th	15	11
May	57.3	52.8	.350	75	1.33	— .42	.46	,, 3rd	8	6
June	59.4	53.6	.345	68	.87	— .91	.39	,, 18th	10	6
July	62.5	58.3	.431	76	2.49	+ 1.08	.76	,, 22nd	14	12
August	63.2	58.5	.429	74	1.85	— .38	.53	,, 1st	11	9
September	58.1	54.0	.370	76	4.04	+ 3.23	1.16	,, 29th	23	18
October	51.9	49.5	.328	84	1.00	— 2.45	.27	,, 11th	15	8
November	46.0	44.1	.270	86	1.82	— 1.18	.44	,, 4th	13	11
December	46.7	45.4	.294	90	2.30	— 1.00	.28	,, 2nd	26	15
Year's Average. Totals.	51.4	48.5	0.316	81.3	23.33	— 3.51			174	117

TABLE IV.

RAINFALL.												
1918.	Bognor. Albert Road.				Felpham.				Lidsey.			
	Total rain.	Number of rain days of ·01 or more.	Greatest fall.	Date.	Total rain.	Number of rain days of ·01 or more.	Greatest fall.	Date.	Total rain.	Number of rain days of ·01 or more.	Greatest fall.	Date.
	Ins.		Ins.		Ins.		Ins.		Ins.		Ins.	
January	3·30	16	1·35 on 15th	3·34	13	1·47 on 15th	3·53	15	1·42 on 15th			
February	·96	11	·22 „ 6th	1·03	11	·22 „ 6th	1·26	12	·31 „ 24th			
March	1·09	9	·44 „ 30th	1·04	8	·45 „ 30th	1·16	9	·49 „ 30th			
April	1·67	13	·35 „ 20th	1·40	15	·38 „ 20th	1·65	12	·42 „ 26th			
May	1·39	9	·18 „ 3rd	1·32	10	·43 „ 3rd	1·38	7	·56 „ 3rd			
June	·90	7	·40 „ 18th	·77	8	·37 „ 18th	1·01	8	·43 „ 18th			
July	2·65	15	·73 „ 22nd	2·53	14	·44 „ 23rd	2·48	14	·58 „ 22nd			
August	1·92	12	·53 „ 1st	2·16	10	·79 „ 2nd	3·03	10	1·25 „ 6th			
September	4·96	22	1·08 „ 29th	5·12	21	1·26 „ 29th	5·87	22	1·45 „ 29th			
October	1·03	16	·27 „ 11th	·88	13	·28 „ 11th	1·14	14	·31 „ 11th			
November	1·83	14	·38 „ 4th	1·85	13	·45 „ 2nd	1·96	12	·55 „ 4th			
December	2·19	25	·27 „ 10th	2·00	25	·30 „ 10th	2·24	20	·32 „ 9th			
Totals.	23·94	169		23·44	161		26·71	155				

TABLE V.

1918.	Bright Sunshine.						Percentage of possible amount.
	Totals.	Difference from Average of 20 years 1898-1917.	Percentage of possible amount.	Number of Sun-recorded days.	Brightest Days.		
	Hours.				Hours.	Date.		Hours.
January	84.3	+ 17.3	32.1	23	29th	8.1	90.0
February	83.1	— 12.0	29.8	20	17th	9.0	89.1
March	173.1	+ 38.3	47.2	26	20th	10.6	87.6
April	121.0	— 73.7	29.3	24	12th	12.3	90.3
May	262.1	+ 34.1	54.7	29	31st	14.6	90.7
June	244.0	+ 17.3	49.7	30	30th	14.8	90.0
July	256.5	+ 17.1	52.0	30	21st	14.4	90.1
August	197.6	— 26.3	44.1	28	10th	13.4	90.0
September	188.6	+ 1.8	50.0	27	1st	12.1	89.6
October	96.7	— 21.6	29.2	23	1st	10.2	87.8
November	82.5	— 1.3	30.9	20	14th	8.2	92.2
December	46.5	— 9.8	18.8	17	17th & 26th	6.6	83.7
Totals.	1836.0	— 18.8	41	297			